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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,252	11/21/2001	Leonid B. Galperin	106172	2148
23490	7590	12/17/2003	EXAMINER	
JOHN G TOLOMEI, PATENT DEPARTMENT UOP LLC 25 EAST ALGONQUIN ROAD P O BOX 5017 DES PLAINES, IL 60017-5017			ARNOLD JR, JAMES	
			ART UNIT	PAPER NUMBER
			1764	
DATE MAILED: 12/17/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/990,252

Applicant(s)

GALPERIN ET AL.

Examiner

James Arnold, Jr.

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

The objection to claim 5 has been overcome by amendment.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boyle (USPN 5,183,789) in view of Innes (USPN 5,883,031).

The Boyle reference discloses a process for regenerating a hydrocarbon conversion catalyst comprising contacting the catalyst with ozone. See Column 8, lines 33-37. The reference discloses a process characterized in that the catalyst has coke deposited thereon, and the process comprises removing at least a portion of the coke from the catalyst. See Column 8, lines 33-45. The reference discloses a temperature range from about 60 C to about 120 C. See Column 8, lines 40. The reference discloses that the catalyst may contain a zeolite. See Column

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4, lines 46-49. The reference discloses a process further characterized in that the contacting occurs at a partial pressure of ozone of up to about 101.3 kPa(g). See column 8, lines 55-60. The reference discloses a process further characterized in that contacting the catalyst with ozone comprises contacting the catalyst with an ozone-containing gas having a concentration of ozone of from about 1 percent to about 50 percent. See Column 8, lines 38-39. The reference discloses a process wherein the regeneration catalyst contains a metal selected from the group consisting of metals in Group VI A, Group VII A, Group VIII A, and Group IV B. See column 8, lines 49-54. The reference discloses a process comprising contacting the catalyst with a gaseous stream comprising ozone and at least one of air and oxygen and containing from about 1 to about 50 percent ozone, at conditions comprising a temperature of from about 60 to about 120 C and gas hourly space velocity of up to about 10,000 hr<sup>-1</sup>, the conditions being sufficient to burn at least a portion of the coke on the catalyst. See Column 8, lines 16-60.

The reference does not disclose the use of zeolite L. The reference does not disclose the entire temperature range of from about 20 C to about 250 C. The reference does not disclose the entire ozone concentration range of from about 0.1 to about 5.0 mol%.

The Innes reference discloses the use of a zeolite L containing conversion catalyst. See Column 20, lines 30-35.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize zeolite L as a component of a conversion catalyst because the Boyle reference states that a zeolite support can be employed with the catalyst. See Column 4, lines 46-50. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the entire temperature range of from about 20 C to about 250 C

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because the Boyle reference disclose a temperature range of from about 60 C to about 120 C, the range disclosed by Boyle overlaps the claimed range, and it would be appropriate to extend the ranges if necessary to obtain positive results. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize entire ozone concentration range of from about 0.1 to about 5.0 mol% because the Boyle reference discloses the use of ozone in the catalytic regeneration process, the range disclosed by Boyle overlaps the claimed range, and it would be appropriate to extend the ranges if necessary to obtain positive results.

### ***Response to Arguments***

Applicant's arguments have been fully considered but are deemed unpersuasive. Applicant asserts that the Boyle reference is an improper reference because the catalyst used in the process contains a halogen, and that the Innes reference is improper because it does not teach that the catalyst contains a halogen. Applicant's process as claimed, however, does not exclude or include the use of a halogen. Applicant also asserts that the Innes reference is improper because it uses oxygen and not ozone for regenerating reforming catalysts. Ozone, however, is a modification of oxygen gas. Therefore, for at least the aforementioned reasons the Examiner maintains that applicant's disclosure would have been obvious to one having ordinary skill in the art at the time the invention was made.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

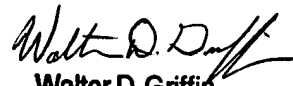
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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Arnold, Jr. whose telephone number is 703-305-5308. The examiner can normally be reached on Monday-Thursday 8:30 AM-6:00 PM; Fridays from 8:30 AM-5:00 PM with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 703-308-6824. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

  
Walter D. Griffin  
Primary Examiner

ja  
December 8, 2003